CSEE Journal of
Power and Energy Systems

Call for Papers

Special Issue on "Computing-Power Coordination in Low-carbon Energy Systems"

Important Dates

Full Paper Submission: March 31, 2027

Final Decision Notification: June 30, 2027

Publication of Special Issue: September 30, 2027

Driven by global digital transformation and advances in artificial intelligence, computing demand is growing exponentially, which brings mounting concerns over underlying energy consumption and carbon footprints. Decarbonization via electrification and intelligence has thus become an urgent priority, coinciding with a pivotal phase in the development of modern power systems. Frequent spatial mismatches between computing demand and conventional energy supply underscore coordinated optimization of computing power and energy as a critical pathway to mitigate resource constraints and advance sustainable development.

Against this backdrop, multi-domain technological advances spanning terrestrial, marine, aerial, and space domains are opening new frontiers for clean, secure, and efficient low-carbon energy systems of the future. At terrestrial and marine scales, grid-integrated physical coupling and coordinated scheduling of onshore/subsea data centers, substations, and offshore wind resources unlock natural cooling potentials and support local renewable energy accommodation. At aerial and space scales, cross-domain initiatives including high-altitude wind power, low-altitude computing nodes, and space-borne computing platforms offer fresh perspectives to address energy management and high-density thermal dissipation under extreme operating conditions.

This special issue welcomes worldwide researchers, scholars, and practitioners to contribute cutting-edge findings and industrial practices on computing–energy coordination within low-carbon energy systems. Relevant topics include, but are not limited to:

- Assessment and modeling of computing and energy potentials;
- Capacity planning and siting of computing and energy infrastructure;
- Coordinated computing and power operation in wide-area energy and computing networks;
- AI-driven control and security of computing-power coupled systems;
- Multi-agent cross-domain sharing of computing and energy;
- Resilience assessment and defense of complex computing-energy systems;
- Low-carbon evolution of smart grids driven by computing power and energy supply coordination.

Guest Editors-in-Chief:



Prof. Jie Song
Peking University
China



Prof. Campbell Booth
University of Strathclyde
UK



Prof. Chao Lu
Tsinghua University
China

Submit your paper to CSEE JPES through: https://mc03.manuscriptcentral.com/cjpes
The CSEE JPES website is located at: https://www.csee.org.cn/english/
All papers of CSEE JPES are published on IEEE Xplore Digital Library as Open Access (OA).